# Government Technology Collaboration Fund - 2001
## Grant Application Form
(Deadline for Submission: August 31, 2001)

For more information about Government Technology Collaboration Fund grants, see the Grant Guidelines at http://www.nitc.state.ne.us/sgc/grants/.

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## Section I: General Information

Project Title: Mobile Data Computer (MDC) Project and Remote Terminal Server (RTS) Project

Submitting Agency (or Agencies):       Nebraska State Patrol

Contact Information for this Project
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Certification for Request
I certify that to the best of my knowledge the information in this application is correct and that the application has been authorized by this entity to meet the obligations set forth in this application.

Name:       Colonel Tom Nesbitt

Title:       Superintendent

Agency:       Nebraska State Patrol

Date:       August 30, 2001


Total Grant Funds Requested:  $53,227
Total Project Costs:  $          153,227

## Section II: Executive Summary

Provide a one or two paragraph summary of the proposed project. This summary will be used in other externally distributed documents and should therefore clearly and succinctly describe the project and the information technology required.

The State Patrol is requesting $49,927 in grant funds to improve public safety by increasing the efficiency and effectiveness of approximately 150 Nebraska State Patrol officers and to further the Agency's technological goals and objectives. This application focuses on two areas of business process improvement. The first project is referred to as the MDC (Mobile Data Computer) Project. The objective of the MDC Project is to increase the amount of information provided to four (4) Headquarters Troop traffic officers by installing mobile data computers and 800 MHz radios in their marked patrol vehicles. The MDCs will have connectivity to the City of Lincoln's 800 MHz trunked radio system which allows them wireless, high speed connectivity to the Nebraska State Patrol Switcher. The Switcher is the device that allows access to all Federal and state databases. The project will provide the officers with the tools necessary to access these law enforcement data systems directly. Currently, officers often wait in que for dispatcher response. The goal of this project is to improve the efficiency and effectiveness of four Nebraska State Patrol troopers. This directive will enhance a pilot project consisting of one officer utilizing the MDC system in cooperation with the City of Lincoln. This project will require the purchase of laptops, computers, wireless network infrastructure hardware, software and licensing. The City of Lincoln is providing the 800 Mhz radios to the Nebraska State Patrol.

The second project is referred to as the RTS (Remote Terminal Server) Project. The goal of the RTS project is to increase the efficiency and effectiveness of approximately 150 Nebraska State Patrol officers using dial up connections to the agency's network. The objective is to decrease the amount of time officers spend completing on-line reports (some extremely lengthy) due to slow dial up infrastructures. The solution proposed is to implement a Microsoft Terminal Server system that will allow the officers to fill out their reports over the low cost dial up lines at an increased speed. This solution will require a server, security appliances, network infrastructure hardware, software and licensing.

## Section III: Goals and Objectives

**1.      Describe the project, including the specific goals and objectives.**

This application addresses two separate business process improvement projects. The first project is referred to as the MDC (Mobile Data Computer) Project and the second is the Remote Terminal Server (RTS) project.

MDC PROJECT
The MDC project enhances an existing pilot project consisting of one marked patrol unit equipped with an 800 MHz radio and MDC connected to the City of Lincoln's 800 MHz trunked radio system. This project will increase the pilot test by adding MDCs in four marked patrol units. The MDCs are industry standard laptops which will be hard wired to an 800 MHz radio provided by the Lincoln Police Department. Through the City's communication system and the Police Department's mobile data server, the NSP officers have the opportunity to run all queries without the aid of a dispatcher.

Further this project will also allow for all five officers involved with the pilot project to participate in a Computer Aided Dispatch (CAD) pilot. The Nebraska State Patrol Communications Division is identified in the Lincoln Police Departments CAD system as a Command Area and is able to interface with the City's CAD system. This enables a Patrol

dispatcher to dispatch officers through the CAD system and for that officer to respond to his call status. For example, the Nebraska State Patrol gets a call regarding an injury accident on Interstate 80. The dispatcher enters the call in CAD and transmits the call over the 800 MHz system, through the CAD interface directly to the officers laptop. The officer receives the call and responds accordingly.

GOAL - To improve public safety by increasing the efficiency and effectiveness of four Nebraska State Patrol troopers.

Objective 1 - Increase the amount of information provided to four troopers by installing MDCs which are connected to the City of Lincoln's 800MHz trunked radio system.

Objective 2 - Decrease the number of queries submitted via a dispatcher.

RTS PROJECT
The second business process identified for improvement within this application is the Remote Terminal Server (RTS) project. Currently, State Patrol officers using dial-up connections through Internet service providers access many business reporting data systems developed in Lotus Notes. While the Lotus Notes methodologies have significantly enhanced the quality and amount of data available electronically to dedicated and T1 line users, the efficiency to dial up users is negated.

The tested solution of using a web accessible, terminal server based solution is an inexpensive way to utilize slow, non-dedicated dial up lines. It concretely identifies an attainable goal of improving officer efficiency while maintaining the high security standards already established at the Nebraska State Patrol.
In one initial test of this system, it was stated a particularly lengthy report took ten (10) minutes to fill out the first line of an Offense Investigative Data form using the current system. Utilizing a RTS, it took less than one minute to complete the same line. An incredible time savings is immediately received and the use of non-dedicated phone lines results in a huge cost savings.

GOAL - To increase the efficiency and effectiveness of approximately 150 Nebraska State Patrol Officers using dial up connections to the agency's wide area network.

Objective - Decrease the amount of time officers spend completing on line reports. Specifically, reduce the time it takes to complete the first line of the Offense Investigative Data form from 10 minutes to 1 minute.

## 2. Describe the project's relationship to the agency's comprehensive technology plan.

Both projects identified within this application have direct relationships to the Nebraska State Patrol's Comprehensive Information Technology Plan.

MDC PROJECT
Several years ago, the Nebraska State Patrol began examining the merits of installing MDCs in marked patrol units. The potential increases in efficiency and officer safety were clear but the agency remained unable to utilize the MDC technology without an adequate communications system. Within the Patrol's Technology Plan, the agency states: "One critical area the Patrol needs to advance in is the radio communications system within Nebraska. This may be our agency's most crucial issue to be addressed and the outcomes will drive our technology direction tremendously. This system, once implemented will allow Mobile Data Terminals (MDTs) to be installed in each car, streamlining how every officer does business today. The Department of Communications TINA Study will guide us with our efforts."

To a small extent, the MDC technology plan is being tested. One Headquarters Troop Officer has been operating a 800 MHz/MdC system for several months. This pilot was made possible by the City of Lincoln Police Department. The Police Department has provided all the equipment and connectivity necessary to test the system. At this time, it appears that the system functions near flawlessly and has improved the officers ability to run and receive queries in a timely manner.

RTS PROJECT
The Comprehensive Information Technology Plan goes on to say that "the Nebraska State Patrol is leveraging its current systems while beginning its quest into future technologies. It is our agency's philosophy that utilizing web based technologies will be the guiding power to allow us to keep up with current trends and lead us into the future. Some of the biggest changes our agency is committing to in the future uses of technology are to capitalize on web-based technologies."

In the past the Patrol has invested heavily in legacy systems (AS400 and Mainframe) while current trends are pulling in other directions. It is the Patrol's ultimate objective to follow the current trends while continuing to maximize investments in legacy systems. This strategy will prove to be complicated and challenging, but necessary to carry the State Patrol to, and stay upon, the crest of the technology wave

The Patrol continues to build on the applications available within Lotus Notes which was deployed statewide in 1999. Applications including electronic mail, paging systems, personnel records, and databases (including offense and intelligence data) are accessible to employees statewide through dedicated and dial-up terminals. The agency continues to consolidate forms and data flow into Lotus Notes in an effort to standardize forms and to work toward a more efficient and paperless operation. The RTS project, utilizing terminal server services and the Internet, will allow officers accessing the system at remote locations to securely and quickly fill out reports, as well as, access law enforcement information.

Clearly both business processes proposed in this project are addressed within the agency's technology plan. The opportunity to pilot MDCs through the Lincoln Police Department system provides us with an opportunity to pilot this technology before the State of Nebraska commits to a new communications package. The RTS project allows us to capitalize on our legacy systems while continuing to move forward with current technological trends.

3.  **Describe, if applicable, how this project furthers the implementation of electronic government. [Preference will be given to projects which support the State Government Council's priority of implementing electronic government as reflected in the goals of the Business Portal Action Plan and the E-Government Strategy (available at http://www.nitc.state.ne.us/sgc/).]**

MDC PROJECT
The deployment of MDCs is the initial step in the electronic automation of allowing officers to conduct business from their patrol unit. The need for the officer to travel to a duty station to complete reports is nearly eliminated which has the potential to save a significant amount of time. Further, through time savings, this automation will benefit the officer and the contacted public by reducing the time spent submitting and receiving query responses through a dispatch center over that which is wirelessly submitted. In peak times, officers may wait up to 10 minutes to submit a request to the dispatch center.

Several other applications are being considered by State of Nebraska Code Agencies that will allow the Patrol to capitalize on MDC use. For example in January of 2003, the Department of Motor Vehicles will be introducing a digital driver's license which may include a bar code that

will contain the bearer's personal information. The bar code can be scanned and the information transferred to the officer's MDC. That single process will cause a significant time savings ultimately resulting in more time for the officer to be on the road - increasing public safety.

With operational MDC's the Patrol would be more ready to participate in electronic accident reporting should that option present itself. In addition to saving the officer time, that process could positively impact the timeliness, accuracy and availability of accident report data.

RTS PROJECT
The RTS project furthers the State of Nebraska's Business Portal Action Plan Goal to examine and improve the efficiency and effectiveness of internal operations. Without the RTS, officer efficiency is compromised and tax dollars are not being maximized.

## Section IV: Scope and Projected Outcomes

Describe the project's specific scope and projected outcomes. The narrative should address the following:

1.      Beneficiaries of this project and the need(s) being addressed;

The beneficiaries of this project include the public, criminal justice officials, sworn officers, and non-sworn Patrol support staff.

The most important but indirect beneficiary of the MDC and RTS projects is the general public. Through the increased efficiencies and effectiveness caused by the deployment of both projects, citizens gain. One example of the benefit to citizens includes the potential for officers to have critical information available to them almost instantaneously which enables them to make more informed decisions, sometimes in emergency situations. Another benefit example deals with the efficient use of tax dollars. Decreasing the time an officer spends on administrative functions ultimately increases the opportunity for that officer to be involved in providing essential police services. Both examples directly relate to increased public safety.

MDC PROJECT
While it has not been statistically documented, it can be concluded the number of arrests generated by officers using MDC is greater than of those officers utilizing the services of a dispatcher. Officers using MDCs will attest to the fact that they run more queries since they have received their MDC because they can handle 100% of the process themselves. One recent example, includes a traffic stop that occurred over a summer holiday where increased enforcement was present. Radio traffic was busy. An officer was waiting to submit a query on a contacted driver. The Trooper who is operating the pilot MDC unit, provided by the Lincoln Police Department, arrived at the stop. While the primary officer was still waiting to submit the query, the pilot project officer ran the contact. There was a "hit" as the driver was wanted on an outstanding warrant. He was arrested. The primary officer stated that "had the pilot officer not arrived he was preparing to give the driver a warning and let him go rather than detain the person for an unreasonable amount of time."

A specific group of officers will benefit from the MDC project through increased communication efficiencies. Specifically, four officers will gain efficiency through the installation and use of the MDCs. In addition to increasing their efficiency, those same officers reap the benefit of increased officer safety. Currently only a limited number of an officer's daily contacts are queried through dispatch. In the cases where a query has not been submitted, that officer does not know who he is contacting. With the MDC, the number of queries submitted is expected to increase dramatically.

While not as dramatic a benefit, all officers assigned to Headquarters Troop (Lincoln and surrounding area) will benefit from the MDC project. That benefit occurs because the volume of radio traffic handled by the dispatchers will be slightly reduced which will allow them to respond to the remaining officers more rapidly.

RTS PROJECT
The RTS project will benefit approximately 150 officers who use dial up computers to access the agency's network. Their primary benefit is generated by decreasing the time they spend performing administrative functions such as report writing. With the RTS, the amount of time spent writing and submitting reports will decrease significantly. For example, it has been reported it is not uncommon for dial up users to spend over an hour completing a Offense Investigative Data form (NSP712) which is a very commonly used form.

Personnel involved in the criminal justice system, such as county attorneys, should also realize a benefit from the RTS project. Their benefit is linked to the decreased time it takes an officer to complete reports. In addition to the fact that the report takes less time to input, it is believed the report will be more comprehensive and detailed. By improving the system speed, an officer is more likely to enter additional information thus providing a better report to the court system.

The project also benefits Nebraska taxpayers and addresses the need to maximize the use of tax dollars. By integrating the solution into existing systems the agency will be enabled to utilize low cost communication lines and continue to build on future web-based technologies.

2. Expected outcomes of the project;

Both the MDC and RTS projects will improve efficiency and effectiveness of the Nebraska State Patrol.

MDC PROJECT
The MDC project will provide four law enforcement officers with computers in their patrol car. Those computers will allow the officers almost instant, direct access to multiple state and federal databases. Officer efficiency will be increased because officers will not have to wait "in line" for a dispatcher and then for that dispatcher's query response. Given that officers, operating MDCs, can initiate queries without a dispatcher and the response time will go from minutes to seconds, an increase in the number of queries conducted will occur. That increase directly translates to more available information and the more information an officer has about who they are contacting the more efficient and safe that officer and the public becomes.

Another example of the increased agency effectiveness of the MDC project is the opportunity to foster interagency relationships with the City of Lincoln and its public service agencies. This project provides a means to expand the current test of one system to a test of five systems with a CAD feature and to develop a viable system that will hopefully be available statewide this decade.

RTS PROJECT
The RTS project will positively impact the efficiency and effectiveness of approximately 150 law enforcement officers who access the Nebraska State Patrol WAN through dial up connections. Testimonials provided by dial up users attest to the fact that it can take 10 minutes to fill in a single line of type on a multi page form. It is a reasonable expectation of this project to reduce that time by almost 90%. The amount of time saved varies from officer assignment to report type but what does not vary is the fact that when an officer saves time from doing administrative tasks - he/she is more available to the public.

3. Measurement and assessment methods that will verify project outcomes;

Each project will be subject to a measurement and assessment process.

MDC PROJECT
A monthly report will be completed by each of the four pilot officers documenting system downtime, strengths and weaknesses of the system.

The number of queries initiated, pre and post MDC installation, will be measured.

Due to the inability to track arrests attributed directly to the use of an MDC, officer testimony will obtained attesting to the impact of the MDC on the number of arrests.

RTS PROJECT
A representative officer from each of the six troop areas will regularly measure and report the time it takes to complete the first line of the Offense Investigative Data form.

A representative officer from each of the six troop areas will complete a monthly survey reporting the effectiveness of the RTS system.

Officer testimony will be solicited as to the effectiveness of this project.


**Section V: Project Justification / Business Case**


Please provide the project justification in terms of tangible benefits (an economic return on investment) and/or intangible benefits to the agency or the public.   The narrative should address the following:


1.      Tangible: Economic cost/benefit analysis;


The Department of Justice - Division of Community Oriented Policing Services (COPS) uses accepted standards to calculate the value of time savings.  For purposes of this analysis COPS standards of 228 shifts per year and 1,824 hours per year are being used.  The average salary and benefit cost of Nebraska State Patrol traffic officer is considered to be $55,000.


MDC PROJECT

The MDC Project will reduce the amount of time officers spend waiting for dispatchers to respond to requests for wants/warrants checks.  While response time varies by location, time of day, and incident demands, it is estimated that the officers currently spend five minutes getting a query request completed.  That time will be reduced to one minute with the deployment of MDCs.


4 officers x 4 minutes saved x 15 queries x 228 shifts = 54,720 minutes = 912 hours

912 hours divided by 1,824 hours (1 year/full time equivalent) = .5 FTE

$55,000 x .5 FTE =  $27,500 in time savings.


RTS PROJECT

Through the RTS project, officer time will be saved by significantly reducing the amount of time officers spend completing reports on line. Two reports routinely completed by officers are being used to measure the cost benefit of this project. The NSP712 (Offense Data Report) currently takes officers, using dial-up computers, 10 minutes to complete the first line. The daily report, on average, takes 7 minutes to complete With the RTS the time to input the 1$^{st}$ line of the NSP712 should go to 1 minute and the Daily Report to 4 minutes. The cost benefit calculations follow.

Time savings specific to the completion of 230 NSP712 reports.

      230 reports monthly x 10 minutes = 2,300 minutes

      230 reports monthly x 1 minute = 230 minutes

            resulting in a savings of 2,070 minutes or 34.5 hours x 12 months = 414 hours saved.

            414 hours divided by 1824 = .25 FTE

Time savings specific to 365 Daily Reports a year, per officer.

      7 minutes = 2,555 minutes           4 minutes = 1,460 minutes

            resulting in a savings of 1,095 minutes x 150 officers = 164,250 minutes

            or 2,737.5 hours divided by 1824 = 1.5 FTE

Total time savings from these two examples equates to the savings of 1.75 officers a year or $96,250.

2.     Intangible: Benefits of the project for customers, clients, and citizens and/or benefits of the project for the agency;

MDC PROJECT

The benefits of the MDC project is first directed to Nebraska's citizens in that the officers who serve them are better equipped with sometimes critical information. Through the MDC project traffic officers equipped with a MDC, can run as many queries as they deem necessary. No longer are they restricted by limited access to radio communications and dispatcher resources. By conducting more queries, the officers have increased the potential to identify individuals with wants or warrants; ultimately increasing public safety.

RTS PROJECT

Similarly, the RTS project benefits the public in much the same manner as the MDC project. Through the RTS, officers ability to input valuable information has increased and has become more timely and efficient.

3.     Other solutions that were evaluated and why they were rejected. Include their strengths and weaknesses. Explain the implications of doing nothing and why this option is not acceptable;

MDC PROJECT

The proof of concept for this project is not new and is becoming a standard business practice by many law enforcement agencies. This project allows our agency to begin to make technologically advances already made by other law enforcement agencies.


RTS PROJECT

The most common solution requested to increase the system response speed is the installation of a dedicated data line. This option is faster and more secure but also very expensive, especially in the rural areas where many duty stations are located. Also, the fact that there are dozens of these locations would make the dedicated line costs exorbitant.


4.      If the project is required to comply with a state or federal mandate, please so indicate.


All Nebraska State Patrol Intelligence databases and their subsequent access are operated within the Federal regulations which govern the operation of Criminal Intelligence Systems funded under the Safe Streets Act found at 28.C.F.R. Part 23.


The communications infrastructure utilized by MDCs meets or exceeds federal (NCIC) National Crime Information Center standards.


**Section VI: Implementation**


Describe the implementation plan -- from design through installation and ongoing support -- for the project. The narrative should address the following:


1.      Project sponsor(s) and stakeholder acceptance analysis;


Dept. of Justice - Community Oriented Policing Services Office through their COPS MORE 2001 program.  A grant application was submitted in March 2001. The application included requests for the RTS and MDC project.  This application will provide matching funds to that grant, if received.  Grant award notifications should be made early this fall.


State of Nebraska - Governor Johanns supports both projects.  His signature was required on the COPS MORE 2001 grant application.  Within the Department of Administrative Services, the Communications Division recognizes the need to improve Nebraska's communication systems. They are currently involved in a Request for Proposal process dealing specifically with communications issues.  Having moved forward on the MDC project will benefit the Communications Division by having proof of concept in place.


Nebraska State Patrol - This project has complete support of agency administration, the Information Technology staff and the potential users.   The agency deems these projects as critical to the success of existing information systems and to the advancement in the communications technology arena.

City of Lincoln - A number of city departments including the police department and their division of communications supports the MDC project. Already the City has provided the Patrol with one MDC, an 800 MHz radio and the necessary wireless connectivity. Recently an offer of adding a 2nd MDC system was made to Patrol administrators.

2.      Define the roles, responsibilities, and required experience of the project team;

MDC PROJECT

The MDC project will be a joint effort between three State Patrol Divisions including Information Technology, Radio Engineering and Communications. The Lincoln Police Department technical staff will also be involved with the MDC project.

Four Nebraska State Patrol Troopers will operate the MDC's, provide feedback, and complete reports.

The Nebraska State Patrol Technology (IT) staff will order the hardware and software necessary. Software installations will be completed by this staff. This staff is also responsible for the ongoing maintenance of the system.

The Radio Engineering staff will be responsible for the physical installation of the equipment.

The Lincoln Police Department will be directly involved in this project. They will be consulted on equipment purchases, system installation and operation. It is anticipated that until an adequate communications system is available statewide, this cooperative effort will continue.

RTS PROJECT

The IT staff will be responsible for implementing all facets of the RTS project. The IT staff consists of five technical professionals with dozens of years of experience with networking and systems.

Officers of Nebraska State Patrol assigned to duty stations where dial up lines are used to connect to the wide area network will operate and evaluate the equipment.

3.      List the major milestones and deliverables for each milestone;

Upon the successful receipt of the COPS MORE 2001 and NITC funding, the following major milestones will occur:

MDC PROJECT
–       order laptops, 800 MHz radios, software and other related goods
–       coordinate with the City of Lincoln and Lancaster County to prepare for connectivity

- install equipment
- conduct regular monitor of project objectives
- measure effectiveness

RTS PROJECT
- order server and software
- install equipment
- begin implementation
- conduct regular monitor of project objectives
- measure effectiveness

4. Training and staff development requirements and procedures;

MDC PROJECT

The Patrol will rely upon the expertise of the Lincoln Police Department to direct us in the purchase, installation and deployment process. Concurrently with deployment, the user will be given training on use of the MDC.

RTS PROJECT

The RTS project will require the IT staff to research and purchase the necessary hardware and software to successfully deploy this project. Following receipt of the goods, the IT staff will install the system and test it. No new staff training is anticipated.

It is anticipated that only minimal training will be necessary for the users/officers. Given that the users are currently utilizing forms and databases, the learning curve on this system is very small and most will pick up on it with very little training. The IT staff will continue to serve as help desk to all users.

5. Ongoing support requirements, plans and provisions.

MDC PROJECT

All networking infrastructure equipment will be under a manufacturer's warranty. The State Patrol IT Division and the Lincoln Police Department technical staff will provide additional maintenance and support.

RTS PROJECT

The NSP intends to procure high availability (redundant) security/firewall appliances that update themselves on as available basis. Those automatic updates allow the Patrol to stay current with the possible new vulnerabilities that are discovered each day.

## Section VII: Technical Impact

Describe how the project enhances, changes or replaces present technology systems, or if new systems are being added. The narrative should address the following:

1.       Descriptions of hardware, software, and communications requirements for this project. Describe the strength and weaknesses of the proposed solution;

MDC PROJECT

The MDCs will be industry-standard laptops and software which will access the Aether Systems server, housed at the Lincoln Police Department, via the City of Lincoln's 800MHz trunked radio system.  The 800 MHz radios will be provided to the Nebraska State Patrol by the Lincoln Police Department.  This will allow the officers the ability to access multiple law enforcement systems without having to communicate through agency dispatchers.  The greatest strength of this solution is that it is proven.  The Patrol currently has one operational MDC system.  This system was provided as a test by the Lincoln Police Department.  The long term strength generated by this project is the decreased amount of time required to get a response to the officer in the field.  One of the weaknesses in the system is that wireless communications still provides somewhat limited bandwidth.  Therefore, more complex applications will have to wait until the wireless infrastructure supports larger data line speeds and capacity.

RTS PROJECT

The RTS solution will consist of a dedicated enterprise-class server running Microsoft Terminal Services.  The system will be connected to the NSP infrastructure via the Gigabit backbone and will be secured behind a high-availability security appliance.  Clients will be able to access the system with a distributed client to existing PC's.  The license sought in this application will provide for 150 terminals to access the server.  The greatest strength of this solution is to provide a secure portal into the NSP Enterprise network by leveraging existing Internet connections. Dedicated lines, high-speed access points and more powerful PC terminals are not required in this environment.  This will provide greater speed and functionality to the users without the added cost of connection upgrades and/or newer PC's.

A weakness to this project solution is as more users are added to the system, additional licenses will have to be purchased.  The Microsoft Terminal Server licensing scheme does not allow for a 'concurrent user' count of licensing.  Each terminal that accesses the server will have to have its own license.

2.       Issues pertaining to reliability, security and scalability;

RTS PROJECT

To handle the proposed number of users, a server of enterprise class quality will be purchased. The connection to the Nebraska State Patrol enterprise network's gigabit backbone will allow for high availability and reliability to services.  The security appliances being sought will allow for high-availability.  They are licensed for firmware upgrades for the life of the product.

Using Microsoft Terminal Services allows for additional licensing to be purchased as more users are brought on-board. Additionally, the server itself is capable of being upgraded and the Operating System is capable of clustering services which will allow multiple servers to function together as one 'virtual' server in order to provide load-balancing and redundancy.

These features provide scalability, security and high-availability.

<u>MDC PROJECT</u>

The communications network operated by the City of Lincoln utilizes DESencryption - end to end. The system meets or exceeds federal NCIC standards. The hardware/software is such that if the server should fail so badly that it could not be recovered, it would take less than 30 minutes to build a new server.

Regarding scalability, this project is currently limited to operation to a limited radius around the City of Lincoln. However, it is envisioned that the State of Nebraska will develop a communications system that will provide the infrastructure to deploy MDCs statewide.

3.　　Conformity with applicable NITC technical standards and guidelines (available at http://www.nitc.state.ne.us/standards/) and generally accepted industry standards;

The MDC and RTS projects conform with applicable NITC technical standards and guidelines and generally accepted industry standards.

4.　　Compatibility with existing institutional and/or statewide infrastructure.

<u>MDC PROJECT</u>

Given that the wireless networking infrastructure is owned and operated by the City of Lincoln; there are no compatibility issues. Upon the State of Nebraska's deployment of a statewide communication infrastructure, it is highly likely that the MDCs will be compatible.

<u>RTS PROJECT</u>

All the equipment proposed in the RTS project is compatible with and will integrate with the existing State Patrol networking infrastructure. Project purchases meets all compatibility standards required by the State of Nebraska. The equipment actually allows existing services to be extended beyond their current capabilities.

**Section VIII: Risk Assessment**

Describe possible barriers and risks related to the project. The narrative should address the following:

1.　　List the identified risks, and relative importance of each;

MDC PROJECT

There are no known risks associated with the MDC project. The Nebraska State Patrol has one MDC on loan from the Lincoln Police Department. This unit has been operational for many months with no adverse impacts. Further, the Lincoln Police Department has successfully deployed MDCs into several of their police cruisers with positive results.


RTS PROJECT

There is a medium risk to a lack of compatibility and function of the wireless network infrastructure. The impact of this risk is considered low. Most times these initial incompatibilities can be overcome.


Given that data speed can only go as fast as the slowest point, there is a risk of data bottlenecking at low speed points within the accessed infrastructure. The end point of access requires the largest bandwidth for multiple user access. The risk is slight with moderate impact, both of which can be overcome with additional lines, higher bandwidth and larger systems.


There is also a risk of security breach and intrusion into sensitive enterprise systems. With the purchase of the security appliance, proper configuration and monitoring, the risk is minimized. Also since the Patrol already has a web presence, the Information Technology Division of the Patrol is experienced with system security. They will devote the same due diligence as devoted to our existing web presence when it comes to matters of updates, security and monitoring. But if any systems were compromised, it could be serious. While the risk associated here is slight; the impact is high.


2.      Identify strategies which have been developed to minimize risks.


MDC PROJECT

The Lincoln Police Department has been involved with MDCs for some time and have strategies in place to minimize risks such as end to end encryption and high-availability servers. The State Patrol is working closely with the Lincoln Police Department to ensure compatibility and will be purchasing equipment under their guidance and approval.


RTS PROJECT

The risks associated with the RTS project include the potential for traffic bottlenecks and security breaches of the Patrol's network. These risks will be minimized through the purchase of high bandwidth networking hardware and high availability security/firewall appliances.


Section IX: Financial Analysis and Budget


1.      Provide the following financial information:

| | GTCF Grant Funding | CashMatch | In-Kind Match | Other Funding Sources | Total |
|---|---|---|---|---|---|
| Personnel Costs | | | | | $0.00 |
| Capital Expenditures (Hardware, software, etc.) | $49,527.00 | | | $100,000.00 | $149,527.00 |
| Contractual Services | | | | | |
| Supplies and Materials | | | | | |
| Telecommunications | $3,300.00 | | | | $3,300.00 |
| Training | | | | | |
| Travel | | | | | |
| Other costs | $400.00 | | | | $400.00 |
| Total | $53,227.00 | | | $100,000.00 | $153,227.00 |
| | 1 | | 2 | | 3 |

2.      Provide a detailed description of the budget items appearing above.


MDC PROJECT

    Capitol Expenditures

(4) Mobile Data Computers @ $5,000          20,000.00

(4) Mobile Data Computer mounts @     $750        3,000.00

Aether Systems Client Access Licenses @ $1,000     4,000.00

(4) Charge guards @ $50        200.00

Wireless network connect        1,527.00

(2) Desktop computers @ $3,500        7,000.00

Hub and router        2,000.00

    Telecommunications

(12) months T1 line charges @ $275        3,300.00

    Other Costs

(4) Radio Maintenance Contract @ 100        400.00

    Total Project Cost     41,427.00


RTS PROJECT

    Capitol Expenditures

Server with 25 client access licenses        $31,000.00

360 GB Storage        10,750.00

GB switch        7,000.00

| | | |
|---|---|---|
| Ether switch/card | 15,000.00 | |
| Security / Firewall Appliances | | 24,000.00 |
| (150) Win2000 TS Client Access Licenses @ $24 | 3,600.00 | |
| (125) Win2000 Srv Client Access Licenses @ $64 | 8,000.00 | |
| (50) Citrix Licenses | 12,200.00 | |
| (5) CAT5 lines @ $50 | 250.00 | |
| Total Project Cost | 111,800.00 | |

3.      Match Requirement: This grant requires a 25% match from the agency. Please use the calculation below to ensure your application meets this requirement.

$$\frac{\text{Total Cash Match (1)} + \text{Total In-Kind Match (2)}}{\text{Total Project Cost (3)}} \quad \$ \ 0.25$$